

Claims

- [c1] 1. A light source inside a back light module, comprising:
a plurality of light-emitting diodes mounted on a holder;
a diffusion device set up over the holder, wherein the
diffusion device comprises a transparent body and a plu-
rality of fine particles distributed within the transparent
body;
a plurality of supporting elements set up between the
diffusion device and the holder; and
reflectors positioned on each side of the holder and the
diffusion device.
- [c2] 2. The light source of claim 1, wherein the supporting
elements have a light-reflecting property.
- [c3] 3. The light source of claim 1, wherein the fine particles
within the diffusion device have different refractivity
rates.
- [c4] 4. The light source of claim 1, wherein the fine particles
within the diffusion device comprise glass particles.
- [c5] 5. The light source of claim 1, wherein the transparent
body of the diffusion device comprises a transparent
planar substrate.

- [c6] 6. The light source of claim 1, wherein the holder has a light-reflecting property.
- [c7] 7. The light source of claim 1, wherein the light-emitting diodes comprise at least a red light-emitting diode, at least a green light-emitting diode and at least a blue light-emitting diode.
- [c8] 8. A light source inside a back light module, comprising:
at least a first light-emitting diode having a first optical axis;
at least a second light-emitting diode having a second optical axis;
at least a third light-emitting diode having a third optical axis, wherein the first optical axis, the second optical axis and the third optical axis are not parallel to one another;
a diffusion device set up over the first light-emitting diode, the second light-emitting diode and the third light-emitting diode such that the first optical axis, the second optical axis and the third optical axis all converge towards the diffusion device; and
reflectors attached to the surface of the diffusion device such that the uncovered portion of the diffusion device constitute a light-incident surface and a light-emitting surface.

- [c9] 9. The light source of claim 8, wherein the first optical axis, the second optical axis and the third optical axis all direct towards a same location within the diffusion device.
- [c10] 10. The light source of claim 8, wherein the first light-emitting diode, the second light-emitting diode and the third light-emitting diode are all mounted on a holder.
- [c11] 11. The light source of claim 8, wherein the light source further comprises a first lens, a second lens and a third lens such that the first lens is positioned between the first light-emitting diode and the diffusion device, the second lens is positioned between the second light-emitting diode and the diffusion device and the third lens is positioned between the third light-emitting diode and the diffusion device.
- [c12] 12. The light source of claim 11, wherein the first lens, the second lens and the third lens comprise cylindrical spherical lenses.
- [c13] 13. The light source of claim 8, wherein diffusion device furthermore comprises:
a transparent body; and
a plurality of fine particles distributed within the transparent body.

- [c14] 14. The light source of claim 13, wherein the fine particles have different refractivity rates.
- [c15] 15. The light source of claim 13, wherein the fine particles within the diffusion device comprise glass particles.
- [c16] 16. The light source of claim 13, wherein material constituting the transparent body of the diffusion device comprises transparent acrylic material.
- [c17] 17. The light source of claim 8, wherein the first light-emitting diode is selected from a group consisting of at least a red light-emitting diode, at least a green light-emitting diode, at least a blue light-emitting diode and an assembly of them.
- [c18] 18. The light source of claim 8, wherein the second light-emitting diode is selected from a group consisting of at least a red light-emitting diode, at least a green light-emitting diode, at least a blue light-emitting diode and an assembly of them.
- [c19] 19. The light source of claim 8, wherein the third light-emitting diode is selected from a group consisting of at least a red light-emitting diode, at least a green light-emitting diode, at least a blue light-emitting diode and an assembly of them.

